

**Introducing a scalable USSD based WhatsApp Banking solution in
South Africa**

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Law and Management, University of the Witwatersrand, in partial fulfilment of
the requirements for the degree of Master of Business Administration.

Declaration

I, Revaaj Sukdeo, hereby declare that this business venture report for the (MBA) in (USSD based WhatsApp Banking) submitted to the (Commerce, Law, and Management) at the University of Witwatersrand has not been submitted previously for any degree at this or another university. It is original in design and in execution, and all reference material contained therein has been duly acknowledged.

Student: Revaaj Sukdeo

Date: 26 May 2025

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Thank you so much.

Abstract

A significant portion of the South African population is not only unbanked but also underbanked. The introduction of a USSD based WhatsApp Banking solution that is easy to use and affordable can provide another channel in the Digital Banking space to help alleviate this issue. This writing focused on ascertaining the optimal design and commercialisation route for such a solution, using the qualitative approach to extract information from industry expert. The findings indicate that user perception of platform security coupled with customer education is key for market acceptance while the inclusion of transactional services and streamlined menu flows will enhance usability.

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1 Introduction and scope of the business venture proposal

1.1 Introduction

Digital Banking users want a service that is easy to use and secure (Bizcommunity, 2024). To meet this demand the solution proposed is a USSD based WhatsApp Banking Solution. Making use of simple menus and limited functionality it would appeal to users that are cost sensitive when it comes to data costs and bank charges, or those who are uncomfortable with the complexity of other Digital Banking channels.

1.2 Overview

Ashton (2024) states that the banking industry in South Africa has evolved tremendously (see Figure 1). Initially physical banking channels like branches, call centres and Automatic Machines (ATM's) dominated the industry. Thereafter digital channels appeared with Online Banking in the 1990's, (Ivey, 2023), and in the 2000's USSD Banking (Mobile Banking), App Banking, MOBI Banking and SMS Banking. Lastly in the mid 2010's Social Banking launched when banks enabled transactions via their client's social media accounts (Parusheva, 2017).

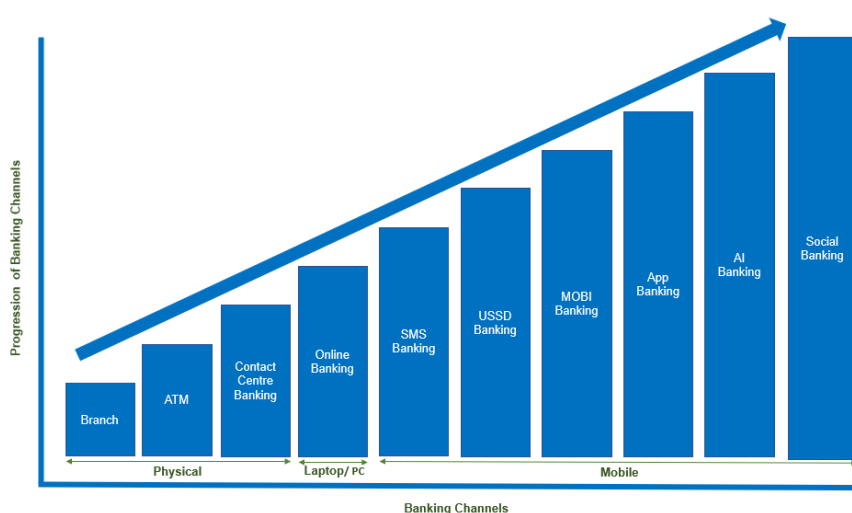


Figure 1: The evolution of banking in South Africa (Ramlakan, 2021)

In South Africa the penetration rate of WhatsApp users to internet users sits at 94% (Cowling, 2024). This coupled with the fact that 86% of Retail Banking customers in the country are willing to trial a new digital banking platform (Boston Consulting Group, 2022), indicates that a market for a USSD based WhatsApp Banking platform exists. The main attributes that the buyers (banks) and users (the customers of banks) will be drawn to regarding this hybrid technology are as follows:

- Simplified menu structure (See Appendix A).
- Affordability, no expensive smart phones, memory cards or data bundles.
- Limited system architecture maintenance costs
- Streamlined transaction and system processes

1.3 Purpose of the study

This study focused on the building of a user friendly USSD based WhatsApp Banking channel could be launched in the South African market to offer banks a cost-effective scalable WhatsApp Banking solution that appeals to the underbanked and unbanked markets. Figure 2 depicts a diagram of a USSD to WhatsApp integration that is cost-effective and doable.

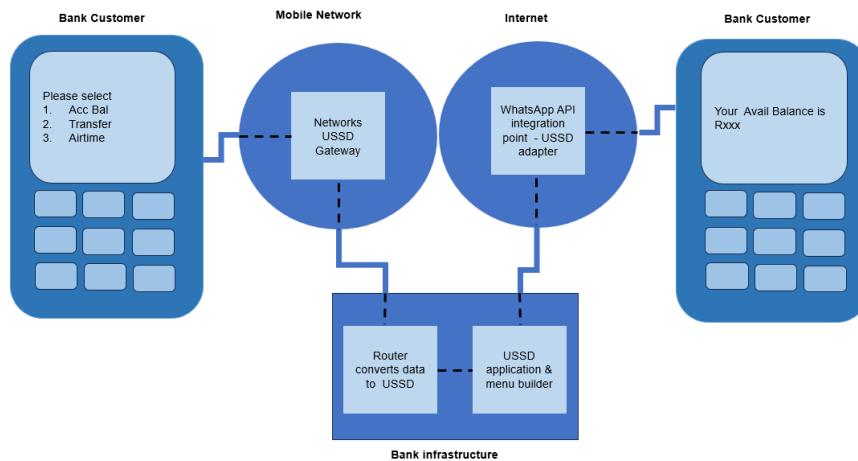


Figure 2: Flow diagram of the envisioned integration (Ramlakan ,2021)

Figure 3 shows the expected drivers of a successful commercialisation for the platform.

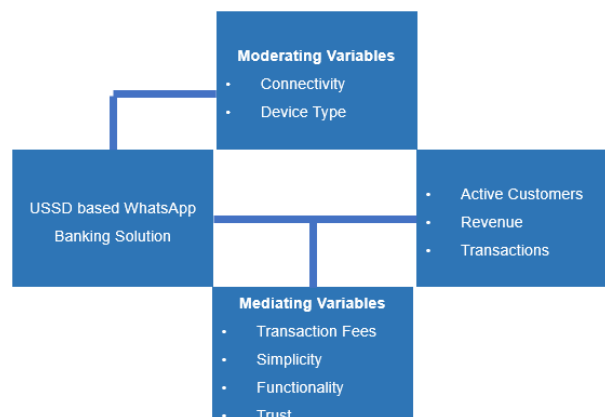


Figure 3: Contextual diagram of the main commercialization levers

1.4 Background

The South African Digital Banking ecosystem was the ideal to study and collect data from to learn how to build a new USSD based WhatsApp Banking platform due to its world class digital infrastructure, coming second in the Oliver Wyman's digital-banking index when compared to 100 banks across 11 countries using 300 metrics (Romagny, 2024). The volume of digital transactions in South Africa has increased by 74% since 2019 and volumes by 40% for the same period (Moyo, 2023). It is therefore evident that there is still space and habitat for this platform to grow in the country.

South African banks also dominate the SADC region with six of the country's banks being the largest by capitalisation (Minney, 2023). This platform is also valuable to any bank that seeks expansion into the region due to the similarities like politics, inequality etc that exist between emerging markets (Botha, 2010). (Mothibi & Rahulani, 2021) identify five forms of Digital Bank in South Africa:

- Challenger banks, fintech's with banking licences e.g. Thyme Bank.
- Neo banks, a purely digital presence in market e.g. Bank Zero.
- Beta banks, who operate through a parent bank. e.g. HelloBank.
- Non-banks, offer services without a banking licence e.g. Monese.
- Incumbent banks, have both traditional and digital client bases e.g. FNB

The WhatsApp Banking solutions originally offered by ABSA and Africa Bank were artificial intelligence (AI) or chat based (ABSA, 2018) and (Rajgopaul, 2021) with their screens and menus following these technology's template. This was not an optimal solution as can be inferred by ABSA transitioning away from its chat-based WhatsApp Banking solution in favour of a payments-based WhatsApp Banking solution (Kaberia, 2024). Another reason that WhatsApp banking has failed to gain scale is the piecemeal approach to launching functionality on its services (Ngila, 2022) which is why a full version USSD based solution is better as it will accommodate for all transactions in addition to payments and offer basic services from the start.

1.5 Objective of the proposed business venture

While South Africa has a relatively advanced banking system that levers digital technologies (Minney, 2023) there are still opportunities that exist in certain sectors of the economy like the unbanked in rural area and the underbanked ie those that are banked but whose inclusion is limited (Simatele & Maciko, 2022). This research

investigated ways in which a low cost, easy to use USSD based WhatsApp Banking platform can give any bank that adopts it the ability to activate these customer bases easily. Therefore, the following research questions were asked to assist in understanding optimal development and roll out:

- What are the specific designs needed to configure a USSD based WhatsApp Banking platform?
- What would the optimal commercialisation route be to gain scalability in market?

1.6 Scope of the proposed business venture

According to (McKinsey, 2023) while many banks do have the intent to implement and invest in digitisation strategies, they often fail in market due to:

- Underbudgeting resources
- Nonintegrable legacy systems
- Workforce resistance
- Inadequate performance tracking

Indeed, banks have some of the highest IT infrastructural lifespans across all industries in the world (McKinsey, 2023), see Figure 4 for an inter-industry comparison with a focus on IT systems.

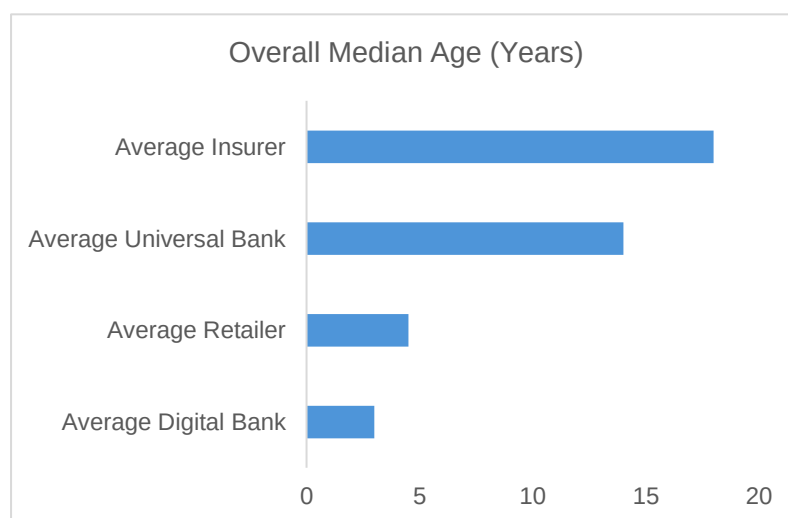


Figure 4: Average age in years of IT applications across industry (adapted from McKinsey, 2023)

To offer streamlined and relevant research that contributed towards the development of a business plan for a new business venture the following criteria was applied to this study:

- Only personnel from South African banks were considered.
- The focus was on servicing the mass and underbanked markets.
- The solution is WhatsApp focused ie Facebook Banking, WeChat Banking and other forms of Social Banking were excluded.

2 Literature Review

2.1 Introduction

This review looked at academic papers, market reports and articles from the media and academic repositories to provide a theoretical basis for the building and implementation of a market winning USSD based WhatsApp Banking solution. It is important to note that the literature on WhatsApp Banking as a front-end system is relatively limited, however the proposal to build the back end based on USSD principles allows for many of the same learnings that come from Mobile Banking to be applied to this solution.

2.2 What are the specific designs needed to configure a USSD based WhatsApp Banking platform?

2.2.1 Designing with the client in mind

Any solution must meet the needs of the user, the Design Thinking Framework is ideal for this. This framework works by defining real world problems and the human needs that must be met to relieve them, furthermore ideation and the testing of prototype solutions are tested and looped back continuously until a preferred solution is built (Dam, 2024). The following figure highlights the nonlinear process that may be employed to build a user-friendly Digital Banking solution.

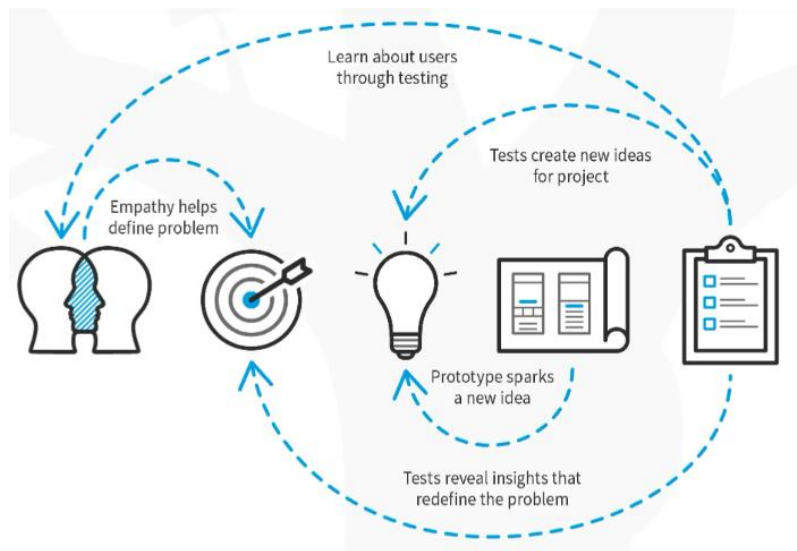


Figure 5: The stages of design thinking (Dam, 2024)

Potential users of Mobile Banking platforms value functionality above all else with convenience, customisation and security coming thereafter (Naruetharadhol et al., 2021). However, (Deb & Agrawal, 2017) found that the primary hinderances to the adoption of Mobile Banking technology were issues around trust and security coupled with a lack of acceptance by the potential user's community. Many models can be used to assist in identifying what the blockers and enablers are to a new technologies adoption however the Technology Acceptance Model (TAM) by Davies is the standard used to analyse the mobile services and by extension WhatsApp based platforms due to its holistic approach (Lule et al., 2012). The TAM model allows users to gain a view of the psychological willingness of people to use a new technology (to the user) like a WhatsApp based platform therefore it focuses on perceived usability (PU) and the perceived ease of use (PEOU), (Naruetharadhol et al., 2021), utilised the TAM in conjunction with a Self-Service Technologies (SST's) quality matrix, see Figure 6, that showed reduced costs through staff reductions and an increase in current customer retention occurs if both the PU and PEOU of these channels are high. However (Deb & Agrawal, 2017) who also used the TAM to conceptualise the adoption of Mobile Banking found that while reducing the angst present in the subjective norm set of people can assist with adoption, the same can also be said for improving upon factors that are already perceived as positive such as mobile internet connectivity and technology complexity as was in their study. Looking at Figure 6, (Naruetharadhol et al., 2021), at point 1 it is noted that service quality is a combination of several SST

factors; at point 3 a perception takes into account both PU and PEOU; the fact the service quality is directly impacted by perception is indicated at point 2 and lastly a positive perception makes potential users of the WhatsApp Banking solution more willing to try it.

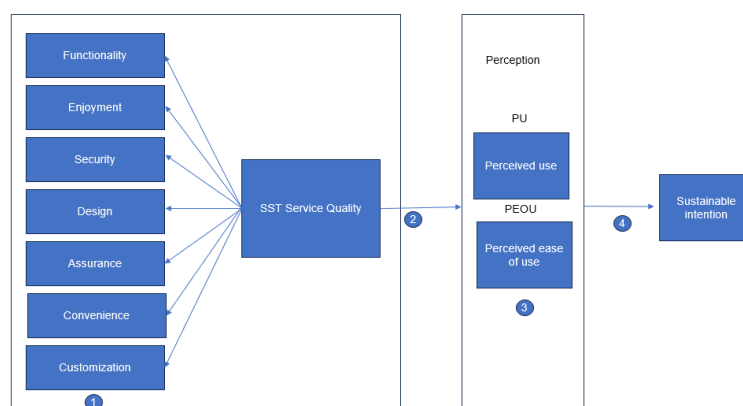


Figure 6 Hypothesized model of behavioural intention to use a Mobile Banking service adapted from (Naruetharadhol et al., 2021)

2.2.2 Building for effectiveness

It is important to note that at its core, Mobile Banking architecture must ensure timely well defined yet modifiable backend processes that uses external networks to amplify its own infrastructure's ability to deliver services (Nassiri & Farzi, 2016). A primary service the solution can provide cheaply and quickly are VAS like prepaid airtime and data which also improves customer experience through relevance during a user's banking routine (Mallik et al., 2020). (S. et al., 2016) highlights that the transactional requirements for a Mobile Banking platform build must incorporate real-time, two-way data transmission, inter-account transactions and access to one's financial history in addition to the standard payments-based solution. In addition (Islam & Biswas, 2011) points out that a good Mobile Banking architecture (of which a USSD to WhatsApp front end integration will be) must safeguard users and ensure that costs are minimal to operators. Newer architecture would be built to easily integrate with legacy banking systems to ensure scalability in market, agility of processes, the quick commercialisation of products all at a reduced cost to banks (PR Newswire, 2020).

2.3 What would the optimal commercialisation route be to gain scalability in market?

2.3.1 Optimising commercialisation to ensure scalability

According to (Fiserv, 2012) without early marketing financial institutions saw active customer usage numbers of their Mobile platforms of around 10% of their current overall customer base while those that did market early on saw adoption of between 10 – 20% , however rather than traditional marketing campaigns the bulk of the focus should be on customer education on the benefits of the channel which will increase take up and reduce channel attrition. Financial institutions must ensure that customers are aware that their USSD platforms ensure privacy in order to improve the perception of service quality (Chigori et al., 2020) by enhancing the number of digits required for password protection away from the standard, also mentioning measures that reduce system downtime should be avoided as that creates the impression that banks cannot maintain control of the system. Instead, a focus of resources towards direct messaging about the mobile channels quick and efficient fulfilment of transactions can especially buy in (Parasuraman et al., 2005). USSD banking is seven times quicker than SMS banking at a lower cost (Friday et al., 2022) and (Chigori et al., 2020) indicates that USSD transactions are real time based, free and the channel itself is subject to lesser customer expectations relative to a Banking App thus allowing for comparable cost savings. Selling VAS products via points of sale devices runs the risk of the machine lagging whereupon a customer walk out thinking that the transaction did not go through only for the process to be completed thereafter leaving the vendor liable, using USSD to fulfil prepaid airtime and electricity purchases removes this reputational and financial risk (Whelan, 2024).

2.4 Management Theories

2.4.1 Market Analysis

The PESTEL framework is ideal for the study of the market as it focuses on the interactions between the technological, socio- economic and legal themes that are critical for the success of a WhatsApp Banking platform (Koont, 2023). The solution must be compliant with all SARB acts and frameworks which focuses on safety, transparency, the reduction of risk and consumer protection (SARB,2024). Opportunity exists in low-income communities where many are excluded from or are under utilizing the formal financial system due to cost factors (Matsebula & Yu, 2020) .

The operating systems supported will be those that are recommended by WhatsApp's updates ie Android OS 5.0 and iOS 12 and newer (WhatsApp Inc., 2024). WhatsApp itself does have security measures like, end-to-end encryption, and two-step authentication but more has to be done to protect customers' information and to defend from phishing schemes (Olaniyi & Omubo, 2023), hence additional features like login password and security notifications are options.

2.4.2 Entrepreneurship Model

While most tech startups fail, applying the Lean Start Up Model which focuses on customer feedback, iterative design and customer feedback can improve a digitally based start-ups chance of success (Blank, 2013). The initial MVP must incorporate balance enquiries and the sale of prepaid airtime and data especially given that 42% of all virtual sales are for prepaid airtime and data and will grow by a further 8.5% from 2023 to 2027 (iKhokha,2024).

2.5 Conclusion

This review has attempted to assist in the creation of a scalable USSD based WhatsApp Banking solution that banks can use to grow their overall Digital Banking presence. It is evident from the readings that a user focused structure is essential to achieve adoption in the market (Naruetharadhol et al., 2021). There are various aspects that the solution should consider producing a holistic product that satisfies and converts as many potential customers as possible (Deb & Agrawal, 2017). Customer perception is a major driver of usage of all Digital Channels (Davis et al., 1989). Commercialization efforts should focus on consumer education and reassure potential users as to the benefits of the channel including but not limited to its security and ease of use (Chigori et al., 2020).

3 Methodology

3.1 Introduction

This section shows the proposed research design and defines the population and sample size that was used. The research methodology used also incorporated the use of the Qualitative Approach and was used to further understand the issues raised in the literature review and to close any gaps that were found. Interviews were used to

collect data and glean insights from industry experts that are based on their real-world experiences and expectations.

3.2 Research Methodology

The Qualitative Approach was best suited for this topic as it allowed for quick and insight rich intelligence mining from interviewees due to its range of methods from the structured to unstructured (Knott et al., 2022). Further to that (Hassan, 2024) highlights that this approach is best suited to topics that require nuanced analysis of a subject. The three basic assumptions of this approach, ontology, epistemology and axiology, tells us that individuals create real world scenarios, hence their perceptions and experiences are best to learn topics that are needed to create new platforms in market (Boswell & Babchuk, 2022).

3.3 Research design

To reach the optimal system architecture and commercialization route for the platform, interviews were used to extract information from industry experts with practical experience in the development and commercialization of Mobile Banking platforms. This was a more effective mechanism to apply when it came to understanding complex topics that require information not readily available from theoretical experts or publications (Knott et al., 2022). These align with the Qualitative Approaches characteristics that emphasize the quality of feedback over quantity (Boswell & Babchuk, 2022).

3.4 Population and sampling

3.4.1 Population

All interviewees were experts from the banking sector and have driven areas in USSD Banking, App Banking, and Online Banking channels. The sample was extracted from the employees of five major banks in South Africa namely ABSA, FNB, Standard Bank and Nedbank with most having experience in the aforementioned areas subjects in more than one bank further enriching the quality of the feedback. The average Mobile Banking team consists of 6 individuals [based on an average of two banks from the list] hence we can estimate a total population of 30 individuals across the four banks mentioned.

3.4.2 Sample and Sampling Method

A total of eleven experts were interviewed as the themes extracted from the feedback started becoming repetitive and no new insights were forthcoming after the 8thth interview. Using this sampling ie having this number of participants ensured that the sample consisted of experts who worked across the various banks and had experience in various fields of management that a Mobile Banking channel requires ie: Product Management; Project Management; Commercialization; Marketing management and Channel Management. A non-probability sampling strategy as part of the overall method was used with participants being invited purposefully by the researcher. See Appendix B for breakdown of sample.

3.5 Data Collection

Everyone from the sample set had a face-to-face or online interview. As part of the pre-interview protocol the interviewee was given a rough estimate of the time it would take to complete the conversation, the disclaimers around confidentiality and how responses will be stored. These sessions followed a hybridised approach and were structured such that interviewees were asked a standard set of five questions from a questionnaire (see Appendix C) designed to guide the conversation towards answering the research questions identified (see Appendix D).

3.6 Data Analysis

During the interviews notes were made highlighting the themes and insights. Thereafter the findings from the most recent interview was integrated with those from the previous sessions. This process continued until common themes naturally emerged. These were then noted for the writing of the BVP and implementation of the solution. To ensure internal validity all interviews were asked the same questions in similar tone and settings. To build external validity interviewees with experience across various banks, roles and responsibilities were used.

3.7 Ethics

This research entailed the interviewing of experts from the banking industry who have managed areas of Mobile Banking and other Digital Banking platforms. All participants gave their consent and received an explanation as to what their rights are and what the research objectives were (See Appendices E and F). All feedback was securely

stored and confidentiality maintained was requested. Ethics clearance was obtained (See Appendix P).

3.8 Conclusion

With the extraction of high-quality nuanced insights being the goal of this research, the methodology was built around the Qualitative Approach. While the interviews were structured, flexibility was allowed for especially when interviewees began to share experiential learnings whose outcomes were difficult to predict. Respondents from most major banks were interviewed and the breadth of their experience covered all major management areas that are involved in Mobile Banking. A systematic approach guided by the pursuance of internal and external validity was maintained. This ensured that the insights collated assisted in bridging the gap between formal theoretical knowledge on the subject and actual experiential learning in the South African context.

4 Key findings

4.1 Introduction

The questions posed were designed to extract learnings from industry experts who have managed and launched Digital Banking platforms in South Africa so that the feedback was relevant and implementable in the local market given its unique variables. Various themes were highlighted by the interviewees. Chiefly for commercialization it was found that user perception around the security of the platform and using a targeted approach when marketing was key. Feedback around the design of the actual solution centered on ensuring that the solution answered the actual needs of the user and that the structure of the menus and screens must be as simple as possible.

4.2 Commercialization of the platform

4.2.1 User perception around safety is key

The core theme was that while Digital Banking platforms are generally safe it is important to convince the user about this fact when launching a new platform. The mechanisms to secure a user's information and funds can be put in place and built easily, however the challenge will come about in convincing the user that they are there (seeing that the platform is virtual) and that they indeed work. Approximately

90% of the interviewees highlighted the point that public perception of how secure the platform is will be critical in gaining trust and customer usage in the market. A major piece of advice from the responders, over 50%, was to try and influence user perception during the launch phase of commercialization plan. The following list details some of the salient ideas on how to address the issue of security of the platform with potential users received during the interviews

4.2.1.1 Leverage the users peers

Usage by a user's peers is effective to convince people of the safety aspect. Peers can be leveraged via the digital space like social media influencers or website testimonials or in physical communities through the use of community champions. One interviewee with over ten years of experience in the creation and execution of customer acquisition campaigns underscored this by saying 'People in this segment will trust their family and friends much more than an SMS or advert on a billboard when it comes to their money'.

4.2.1.2 Targeted Direct Messaging

Directly messaging the current customer base highlighting the password and encryption protections is critical to ensure customer education around safety. The two most prominent Direct Messaging channels recommended were the use of SMS's and Push Notifications. A point that was highlighted by one interviewee whose current role revolves around the creation and distribution of messaging in the Digital Banking space was 'Remember that SMS's can be expensive, but you can reach more people than Push Notifications, but Push Notifications are more trusted and read than an SMS'.

4.2.1.3 Utilization of branch network

Leveraging the branch and other banking staff to discuss security concern with customers at point of account openings and even as part of general objection handling would be a good way to reassure potential users who have fears around the safety of their funds. This becomes all the more important when trying to convert somebody onto the platform who already has a preference for face to face interaction over Mobile Phone technology. As an interviewee with experience in Branch Banking Management put it 'We have the relationship and trust with the client already, use it.'

4.3 The design of the platform

4.3.1 Designing for functionality

Designing the platform to be easy to navigate by users especially those who are not comfortable with mobile phone technology, via the use of intuitive screen flows and menus that avoid unnecessary steps and technical banking terminology was a major theme. The complexity of the menu and functionality of the app was highlighted as the most significant factor to consider when designing the solution by over 70% of the interviewees. Of all the respondents that spoke to the menu design of USSD over 50% highlighted that having fewer options and screens for the user to perform and choose from would be best.

4.3.2 Designing for Relevance

Another major theme was that the limited space on a USSD screen must be dedicated to high volume transactions ie the platform must give the user the transactional functionality and virtual products that are in demand. An interviewee with over five years of experience in commercialization mentioned that ‘the solution should not be too complex, less is sometimes more’ while another with ten years’ experience in system processes explained that ‘offering credit based products can scare some people away’. The following table lists the most common transaction and VAS options that all interviewees felt should be included.

Table 1: Recommended services that should be on offer

Pure Banking Transactions	VAS Products
Payments	Airtime
Transfers	Data
Balance View	LOTTO

4.4 Conclusion

The main take out from the experts in industry shows us that key to look at for the successful launch of the platform is the design and a targeted customer acquisition drive underscored by building trust in potential users and providing relevant services. By extrapolation it can be deduced that by building effective marketing and media plans

that highlight the intuitiveness and security features the platform offers any bank that roles this out will succeed in market.

5 Business venture proposal

5.1 Executive Summary

5.1.1 Vision

To use technology as an enabler of financial inclusion with focus on the non and underbanked segments of South Africa regardless of socio-economic standing or technological literacy level.

5.1.2 Mission

Introduce a secure no frills USSD based WhatsApp Banking platform that is affordable and saves the user time and money. Enable the sections of society that are marginalized from the formal banking sector an opportunity to access its benefits.

5.1.3 Organizational objectives

- Innovation & Technology - Create a USSD based WhatsApp Banking solution that can integrate into a bank's current technology stack with minimal maintenance needed thereafter.
- Market & Growth - Launch the solution and ensure maximum take up based on targeted marketing and customer education.
- Financial – Claw back initial funding and other expenses in the quickest time possible using an effective pricing strategy coupled with a relevant service offering.

5.2 Business Description

5.2.1 The Concept

This USSD based WhatsApp banking platform brings together the best of both platforms into one package to serve a segment that is cost sensitive and not open to using the current mainstays of Digital Banking ie App Banking or Online Banking. The screens will be minimalist inspired by USSD technology inspired (See Appendix A) and only high volume in demand transactions will be available. The large reach and acceptance levels that WhatsApp has in South Africa will also work to this solutions advantage when role out occurs (See Appendix G).

5.2.2 Target Market

The primary target market will be:

- The underbanked, especially those who have bank accounts but do not use Digital Banking platforms. The latter can average 50% of a bank's total customer base or approximately 20m individuals based on just four banks (See Appendix H).
- The unbanked population in South Africa which constitutes approximately a third of the population and one million informal businesses (Majola, 2023).

5.2.3 Services Offered

This solution shall focus on the high-volume transactional banking and VAS products only.

Table 2: Products that the platform will support

Transactional Banking	Value Added Services
Balance Viewing	Airtime
Payments	Data
Send Money	Electricity
Transfers	Lotto
Password Change	Powerball

5.2.4 Funding Requirements

A total of R15,2m funding is needed. See the table below for a breakdown of main cost drivers.

Table 3: Itemization of Funding Request

Costs	Initial Funding	Description	Justification
Staff	R3 241 696	1x Senior Dev, 2x Direct Marketers, 2 x Testers , 2x Business Analysts	See Appendix I
Marketing	R4 320 000	SMS , Push Notifications, PR (Including Social)	
Development	R7 000 000	Gateway Costs, Plugins, API's etc	

Cyber Security/Fraud	R1 500 000	Educational, monitoring costs, vulnerability testing, encryption, 2 factor authentication
Infrastructure	R4 000 000	Hosting Services, DN , licenses, database , laptops and other paraphernalia etc
Other Costs	R3 000 000	Miscellaneous Costs like Ad hoc incentives etc

5.3 Market Analysis

5.3.1 Industry Landscape and Market trends in South Africa

5.3.1.1 Mobile Phones

- Mobile phone Penetration: 92% of all citizens own a Mobile phone
- Feature Phone Penetration: Over 10m new feature phones sold in 2023 and 2024 alone (Labuschagne, 2023) ie feature phones can only access USSD

5.3.1.2 Digital Technology

WhatsApp Penetration: Approximately 95% of South Africans already use WhatsApp as a Social Media tool (See Appendix G)

- Digital Banking Market: Projected to grow to US\$0.75bn by end 2025 (Statista, n.d.)
- Fintech and Challenger Banks: South Africa is Africa's largest destination for investments in FinTech's with 140 operational as of 2023 and growing (Fintechnews Africa, 2024). The country's challenger banks ie Tyme Bank, Discovery Bank, and Bank Zero will be joined by four more in 2025 ie Old Mutual Bank, YWBN Mutual Bank, Postbank and the South Africa Innovative Financial Services Cooperative (Jacobs, 2025).

5.3.1.3 Government Regulation

In South Africa the platform will have to be cognizant of the laws that regulate both the banking and telecom sectors. Major themes like data security, cybercrime and anti-money laundering among others must be developed for. All government frameworks and bodies (See Appendix J) like the Prudential Authority must take priority.

5.3.1.4 Economic factors

South Africa has some of the highest data costs in the world (Bodlani, 2023) however provincial government may also expand access by increasing free Wi-Fi sites (South African Government, 2024). Further South Africa has among the highest banking costs in the world despite recent reductions and fairs poorly even amid other developing countries for inclusion into the formal banking sector (See Appendix K).

5.4 Competitor Analysis

Taking a deeper look at the main incumbent, challenger and neo banks in South Africa, they have successfully implemented one or more physical channels and/ or digital channels. However, no bank has fully capitalized on the USSD – WhatsApp hybridization opportunity presenting an opportunity.

Table 4: View of Digital Banking landscape in South Africa

Banks	Branch	Contact Centre	ATM	USSD App Banking	Online Banking	Social Banking
FNB	Yes	Yes	Yes	Yes	Yes	Yes
ABSA	Yes	Yes	Yes	Yes	Yes	Yes - WhatsApp Banking AI Based (Decommissioned , Now SMS Based) (ABSA, 2018)
Standard Bank	Yes	Yes	Yes	Yes	Yes	Yes
Nedbank	Yes	Yes	Yes	Yes	Yes	Yes
Capitec Bank	Yes	Yes	Yes	Yes	Yes	Yes
African Bank	Yes	Yes	Yes	Yes	Yes	Yes - WhatsApp Banking AI Based (No-Scale) (Rajgopaul, 2021)

Thyme Bank	Yes	Yes	Yes	Yes	Yes	Yes
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It is important to note that the Social Banking services provided by South Africa's four major banks ABSA, Nedbank, Standard Bank, and FNB do not function as true WhatsApp Banking platforms but as customer service portals meant to reduce call center interactions (Integrove, 2024), whereas the proposed solution will serve as a fully transactional banking service. Traditional banking channels, such as branch banking and ATMs, are expensive to maintain due to the high costs associated with cash handling, security, and insuring for risks (BusinessTech, 2024) all of which will be nil for a transactional USSD based WhatsApp Banking solution.

5.5 Marketing and Sales

5.5.1 Promotion and Sales Strategy

The temptation may be present to utilize an array of mass marketing channels to introduce the solution to the as many people as possible however this will be expensive and would not provide the returns needed. Following an organized campaign whereby, the current customer base is migrated onto the platform using direct communications with support from above the line marketing is key. For a view of the thrust of the commercialization strategy should aim drive the below two bases into the solutions customer acquisition funnel:

- Customers that are new to bank ie customers that are opening a transactional bank account with the financial institution for the first time
- Customers who are already banked ie customers who currently have a transactional bank account with the financial institute but are not yet users of the solution (See Appendix L).

5.5.2 Pricing Strategy

The Pay as You Use (PAYU) model is ideal for this cost sensitive segment. The table below reflects the recommended fees per transaction.

Table 5: Recommended Price per Transaction

Transaction Type	Recommended Fee per Transaction (Borne by User Paid to Bank)
Prepaid Airtime	50c
Prepaid Data	50c
Lotto	R1,50
Powerball	R1,50
Send Money	R1,50
Payment	R1,50
Electricity	R1,50
Water	R1,50

5.5.3 Customer Acquisition Plan

The customer acquisition strategy (See Appendix N) will rely on a targeted approach in the launch phase. Banked but digitally inactive customers will be targeted with direct messaging and new to bank customers, ie customers who are opening new transactional accounts with the bank shall be steered towards registration by branch and call center staff at point of opening.

5.6 Operations

5.6.1 Daily Reporting

Live reporting (See Appendix M) on volumes of registered and active users and the values and volume of transactions performed on the platform. Role up weekly and monthly reporting versus targeted KPI's. Primary reporting tool will be QlikView based and can be fed back to bank executives in PDF format.

5.6.2 Customer Acquisition

Setting up Push Notification and SMS to target the Digitally Inactive base. Communications to branch sales staff on daily KPI's required for registration of the platform. Total Acquisition for the day will be rolled up and monthly activation rate (percentage of users registered that performed a transaction or logged on) will be a key metric of success of the campaign.

5.6.3 Staffing Requirements

Table 6: Staffing Requirements Breakdown

Role	Required	Description
Developer	1	Develop the elements of the platform by coding the solution. Test and ensure that the solution is fit for purpose and fix code as bugs come along. Guide the deployment of the solution in term of integration with the banks current technology stack. Manage specifications changes and timelines with bank system architects and business analyst. A minimum of five years' experience in Swift and Python is a must.
Direct Marketers	2	Perform targeted direct marketing campaigns primary through SMS and Push Notifications. Generate campaign performance reports using Data interface tools to support business in decision making. Create and generate conversion ratios and other bank specific KPI's reports as needed.
Testers	2	Conduct pre and post Go Live Testing on multiple mobile devices and operating systems. Support Business Analysts to ensure execution of Spec. Report bugs timeously and track/log exceptions. At least 1 year UAT testing experience in a Digital Banking environment.
Business Analysts	2	Work with Developer to draw up BRS, FRS and UAT. Identify gaps between market expectations and development work. Support Developer in the PDLC regarding coding , planning of system iterations, mapping of system processes etc.

5.6.4 Virtual Logistics

Private cloud-based hosting is optimal to ensure that any rapid growth can be accounted for and built in backup with encryption is available. Compliance with all aspects of the Prudential Authority guidelines must be accounted for within the stipulated timeframe. As such the platform must be able to quickly switch to web or owned hosting if needed.

5.7 Financial Projections

5.7.1 Sales & Expenses

Notes & Assumptions

- At the end of Year 1 we achieve a KPI of 119 483 (based on an average of three South African banks Mobile Banking channels)
- Active Customers and achieve decreasing marginal increase thereafter.
- Each Active Customer makes at least one transaction per month. The value of one transaction is the standard number of transactions that a customer must make to be considered as active on a Digital Banking Channel in South Africa.
- Average Spend of Each Customer is at least R100 per month.

5.7.1.1 Projection: Active Customer Base & Value of Transactions

	Year1	Year2	Year3	Year4	Year5
Active Customers	119 483	229 832	330 269	421 472	504 083
Transactions	1 433 796	2 757 984	3 963 228	5 057 664	6 048 996
Value of Transactions	R143 379 600	R275 798 400	R396 322 800	R505 766 400	R604 899 600

5.7.2 Projection Sales

Notes

- Commission Fee of 3% per the value of a transaction is Received from Suppliers of Prepaid and VAS Products.
- An average Transaction Fee of R1,50 is applied to the customer.

Revenue	Year1	Year2	Year3	Year4	Year5
Commission	R5 735	R11 031	R15 852	R20 230	R24 195
Revenue @ 4%	184	936	912	656	984
Transaction	R2 150	R4 136	R5 944	R7 586	R9 073
Revenue @R1,50	694	976	842	496	494
Gross Revenue	R7 885	R15 168	R21 797	R27 817	R33 269
	878	912	754	152	478

5.7.3 Projection Expenses

Notes & Assumptions

- A 7% YOY inflation was applied YOY.
- Development Costs high in Y1 due to bulk of design, testing and coding occurring here. Thereafter its maintenance.
- Security/Fraud entails the costs to monitor, prevent and secure the platform in education to customer education
- Infrastructure Costs include the costs for API's , Plugins, Cloud Services, Cyber Security etc. Initially high in first year then drops as its just maintenance thereafter.
- There are no Gateway costs for USSD
- Costs based on observation of one South African Bank of medium size.

Costs	Year1	Year2	Year3	Year4	Year5
Staff	R3 241 696	R3 468 615	R3 711 418	R3 971 217	R4 249 202
Marketing	R4 320 000	R4 320 000	R4 320 000	R4 320 000	R4 320 000
Development	R7 000 000	R2 500 000	R2 675 000	R2 862 250	R3 062 608
Security/Fraud	R1 500 000	R1 605 000	R1 717 350	R1 837 565	R1 966 194
Infrastructure	R4 000 000	R4 280 000	R4 579 600	R4 900 172	R5 243 184
Other Costs	R3 000 000	R3 210 000	R3 434 700	R3 675 129	R3 932 388
Total Costs	R23 061 696	R19 383 615	R20 438 068	R21 566 332	R22 773 576

5.7.4 Projection NPBT

	Year1	Year2	Year3	Year4	Year5
NPBT	-R15 175 818	-R4 214 703	R1 359 686	R6 250 820	R10 495 902

5.8 Cash Flow

Notes & Assumptions

- USSD based banking has no depreciation as the physical infrastructure is owned by the networks and cloud companies.
- No loan or credit products will be serviced by the platform.

	Year1	Year2	Year3	Year4	Year5
Cash Inflow	R7 885 878	R15 168 912	R21 797 754	R27 817 152	R33 269 478
Commission Revenue	R5 735 184	R11 031 936	R15 852 912	R20 230 656	R24 195 984
Transaction Revenue	R2 150 694	R4 136 976	R5 944 842	R7 586 496	R9 073 494
Total Inflow	R7 885 878	R15 168 912	R21 797 754	R27 817 152	R33 269 478
Cash Outflow	R23 061 696	R19 383 615	R20 438 068	R21 566 332	R22 773 576
Staff	R3 241 696	R3 468 615	R3 711 418	R3 971 217	R4 249 202
Marketing	R4 320 000	R4 320 000	R4 320 000	R4 320 000	R4 320 000
Development	R7 000 000	R2 500 000	R2 675 000	R2 862 250	R3 062 608
Security/Fraud	R1 500 000	R1 605 000	R1 717 350	R1 837 565	R1 966 194
Infrastructure	R4 000 000	R4 280 000	R4 579 600	R4 900 172	R5 243 184

Other Costs	R3 000 000	R3 210 000	R3 434 700	R3 675 129	R3 932 388
Net Cash Flow	-R15 175 818	-R4 214 703	R1 359 686	R6 250 820	R10 495 902

5.9 Break Even Analysis

Notes & Assumptions

- Average Transaction Fee is R1,50
- Average Commission Income per Transaction is $[R4 \times R100] = R4$
- Average Gateway Cost per Transaction is R0 [No Variable Costs]
- Contribution Margin per Transaction is $[R1,50 + R4 - R0] = R5,50$
- Total Fixed Cost is R23 061 696

Calculation:

$$\text{Break Even} = \text{Fixed Costs} / \text{CMP}$$

$$= R23\,061\,696 / R5$$

$$\text{Transactions} = 4192127$$

Seeing that R4.1m transactions are needed, breakeven would occur early in Year 4. It is important to note that time to break even can be accelerated by the below measures

- Increase the rate of customer acquisition through direct messaging of current customers that are Digitally Inactive and Branch onboarding. These customers can be acquired at a lesser cost as the need for above-the-line marketing and subsequent onboarding costs will be nil.
- Increase the number of transactions using incentives to customers to move away from high labour cost channels like Branch Banking or through passing on discounts received from digital aggregators such as those that supply airtime and data in bulk.

6 Summary

6.1 Summation of the Venture Plan

This Business venture replan seeks to outline the systemic and strategic approach to rolling out a USSD based WhatsApp Banking platform in South Africa. It identifies the segments of society that are excluded from or are underutilizing the formal banking sector as the potential user base for the platform. The major value proposition to this segment would be the relative affordability of the service, its ease of use and high level of accessibility. The solution itself shall incorporate mass transactional services and VAS products however credit and loan-based services will be excluded. Users shall be subject to the Pay as You use Model hence total spend and total fees paid will be in the control of the user.

6.2 Key Findings from the Study

Real world experts in the field of Mobile Banking in South Africa contributed a plethora of nuance rich feedback around the platform. The two major themes highlighted revolved around ensuring that the potential user base is educated and convinced about the safety and security of the platform. The guiding principal for the design of the platform must be user centricity ie functionality and relevance to the user is key.

6.3 Key Findings from the Market Analysis

The market itself in South Africa needs such a solution with the general Digital, WhatsApp and Mobile phone technologies needed for the platform to gain a wide user base achieving high penetration rates in the country. Furthermore, the need for financial inclusion especially for those who may have technology angst is still a major macro-economic issue that even government is trying to tackle.

It is important to note that 'pure' USSD Banking itself is currently widely available in South Africa therefore the intention of the proposed platform is not meant to do the same but rather lever WhatsApp's footprint and confidence in market to expand this relatively simplified technology to a greater user base. The intention is also not to build a platform to compete with App and Online Banking channels but rather to service those users that will most likely not use the aforementioned channels anyway.

6.4 Identified Risk and Mitigations

Risk	Description	Mitigation
Data Security	Hostile parties may attempt to intercept sensitive customer data while using the platform.	1. WhatsApp already encrypts the user's data however a second layer of encryption must be placed from the side of the bank. 2. A password must be built into the platform to add a second layer of protection with Two Factor Authentication in the form of an OTP.
Fraud	Criminal syndicates can try to gain access to the customer banking profile with the customers permission through deception and fake links.	1. Continuous customer education on the latest scams like Phishing Schemes through SMS and push notifications. 2. Setting limits on the value of transactions can also limit the damage of any potential breach.
System Failure	The platform may fail to function correctly or crash due to unforeseen circumstances.	1. Ensure that the Private Hosting Service has a backup service. 2. Transactions and usage must be monitored so that any downtime is immediately picked up on and acted on swiftly.
New Entrants	Other banks may launch their own versions of USSD based WhatsApp	1. Customers must integrate into the banks rewards programme thus making it less likely they would leave the platform.

	Banking in the market.	
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6.5 Conclusion

Based on an analysis of the market and input from industry experts it is evident that the launch of this platform will achieve not only financial success but also answer its Mission to increase financial inclusion into the formal banking sector. that risk factors are identified and planned for the adoption of this plan is highly recommended to any banking institution that wishes to capitalize on these benefits.

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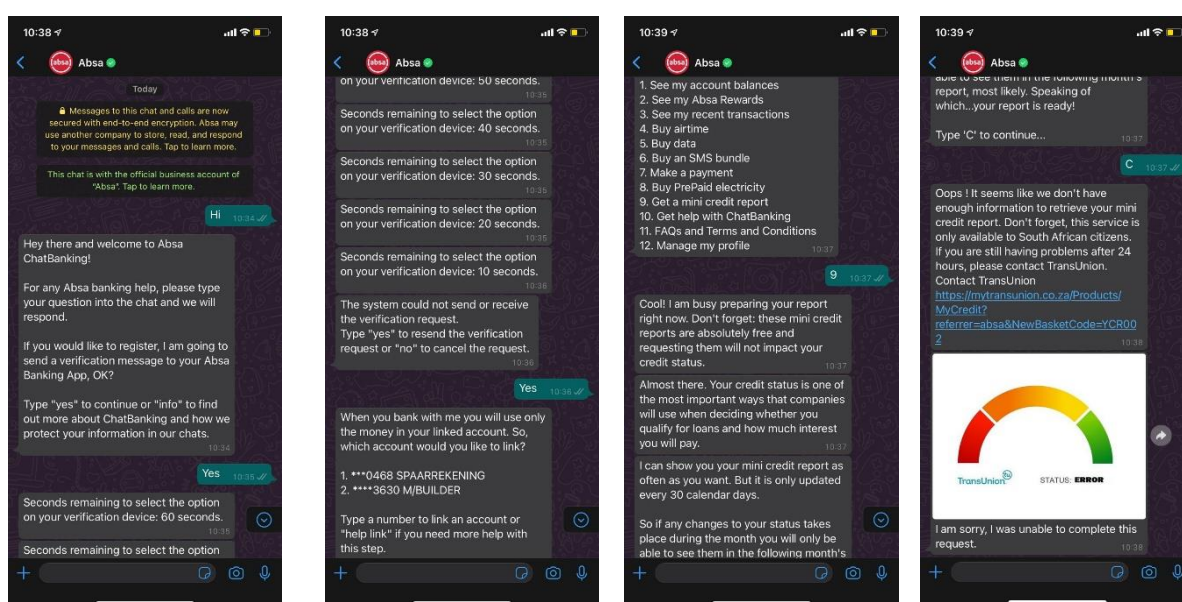
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8 Appendixes

Appendix A – Mock up proposed USSD based WhatsApp Banking screen

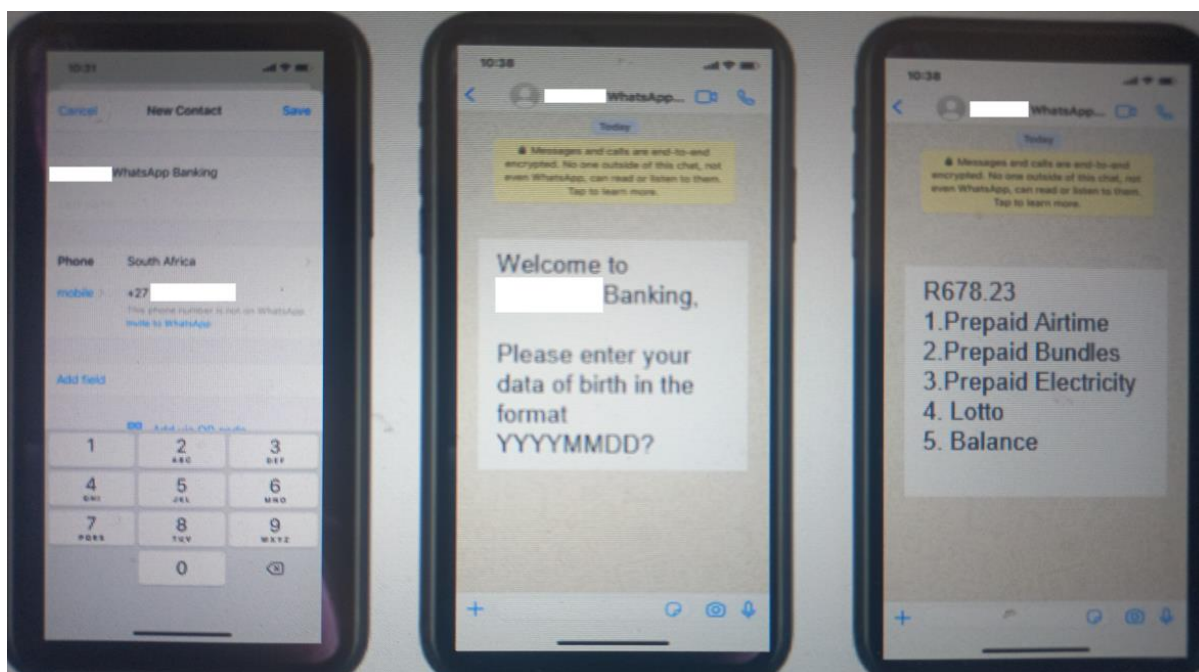
What a current AI/Chat WhatsApp Banking solution looks like

- Messy
- Storage intensive
- Processing power intensive
- Expensive for bank to integrate and maintain due to AI/Chat technology



Proposed USSD based WhatsApp Banking solution

- Simple menu
- Streamlined
- Cheap (no expensive smart phones or storage cards/cloud space need to be bought.)
- No mainframe and expensive maintenance costs for banks to operate
- Appeals to Mid to lower LSMs



Appendix B – Profile of Sample Population

Participant	Fields of management within Digital Banking	Digital Banking Channels with experience in	Banks Digital Banking roles worked in
Participant 1	- Product Management; - Commercialization; - Marketing management - Channel Management	- USSD Banking, - App Banking,	- ABSA, - Nedbank
Participant 2	- Product Management; - Project Management; - Commercialization;	- USSD Banking - App Banking - Online Banking	FNB

Participant 3	• Marketing management • Channel Management	• App Banking, • Online Banking	• Nedbank
Participant 4	• Product Management; • Project Management; • Commercialization; • Marketing management • Channel Management	• USSD Banking • App Banking • Online Banking	• FNB, • Nedbank
Participant 5	• Project Management; • Channel Management	• USSD Banking, • App Banking, • Online Banking	• ABSA
Participant 6	• Product Management; • Channel Management • Commercialization;	• USSD Banking, • App Banking, • Online Banking	• Nedbank
Participant 7	• Project Management; • Commercialization; • Marketing management	• USSD Banking, • App Banking,	• Nedbank
Participant 8	• Product Management; • Commercialization; • Marketing management	• USSD Banking, • App Banking,	• Standard Bank • FNB

	• Channel Management		
Participant 9	• Product Management; • Commercialization; • Marketing management • Channel Management	• USSD Banking, • App Banking,	• Nedbank • FNB
Participant 10	• Product Management; • Commercialization; • Marketing management • Channel Management	• USSD Banking, • App Banking, • Online Banking	• FNB, • ABSA
Participant 11	• Product Management; • Project Management; • Commercialization; • Marketing management • Channel Management	• USSD Banking, • App Banking, • Online Banking	• RMB • FNB • Ithala

Appendix C – Interview Protocol and Questions

Interview Protocol Form

University:

Interviewee:

Interviewee

Topic:

Additional Comments:

Leads:

Disclaimers:

- Conversation will be recorded to assist in accuracy of data only.
- A non de plume can be used if you prefer.
- Your name, responses or any other distinguishable detail will not be disclosed to other interviewees.
- Your name or any other distinguishable detail will be disclosed in the final report, all data will be aggregated and quotes if used will be anonymous or assigned a non de plume.
- Propriety information or the name of your organisation is not needed.
- The name of the organisation you work for is not needed.
- Responses devoid of any identifying details will be stored in a password protected, encrypted folder and deleted after a year.
- You are required to sign a consent form prior to starting.
- Feel free to offer insight that may build upon the questions.

Questions:

1. What are the barriers that you foresee in development and rollout of a USSD-based WhatsApp Banking solution in South Africa?

- Technical skills deficit
- No buy in from the upper echelons

- Legacy systems
- Budgetary constraints
- Market forces

2. What transactions and other functionalities do you think would make a USSD-based WhatsApp Banking solution user friendly and attractive to the market?

- Underbanked and township economy in specific
- Transaction limits (value)
- Balances
- VAS items like airtime vs bank transactions split

3. Can you give me your thoughts on what would the best commercialisation route be to ensure scalability?

- Underbanked and township economy in specific
- Marketing channels
- Sales strategies
- Pricing
- Increase revenue
- Increase volumes
- Increase customer registrations and activations

4. How would you recommend that potential users are educated and assured about the safety and security measures of a USSD based WhatsApp Banking platform?

- Incentives to start transacting
- Traditional marketing channels like radio, newspaper etc
- Icons and signs on the menu (like locks)

5. Given the Digital Banking ecosystem in its entirety I the country, are there any insights good or bad that can contribute towards the development and rollout of this channel?

Appendix D – Questionnaire Design in relation to Themes answered

Question	Theme	Research Question
Question 1	Barriers to Entry	What would the optimal commercialisation route be to gain scalability in market?
Question 2	Functionality of Solution	What are the specific designs needed to configure a USSD based WhatsApp Banking platform?
Question 3	Scalability in Market	What would the optimal commercialisation route be to gain scalability in market?
Question 4	Security	What are the specific designs needed to configure a USSD based WhatsApp Banking platform?
Question 5	Role Out Plan	What would the optimal commercialisation route be to gain scalability in market?

Appendix E – Consent Form

Title of project: Introducing a scalable USSD based WhatsApp Banking solution in South Africa

Name of researcher: Revaaj Sukdeo

I,, agree to participate in this research project.

I agree to the following:

(Please circle the relevant options below)

The research study was explained to me. I understand what this study is about.

YES NO

I understand that I can volunteer to take part in the study

YES NO

I agree that the interview/focus group/other activity may be audio recorded

YES NO

I agree that direct quotations from my interview/focus group/other activity may be used by the researcher in their research report/ manuscript/book chapter

YES NO

I agree that my participation will remain anonymous (my name or other identifying data will not be used by the researcher in their research report/manuscript/book chapter)

YES NO

I agree that other researchers may use the information I provide in my interview/focus group/other activity (depending on their own ethics clearance being obtained) but my name and any personal information will not be used or passed on

YES NO

..... (signature)

..... (name of participant)

..... (date)

..... (signature)

..... (name of researcher/person seeking consent)

..... (date)

Appendix F – Ensuring Privacy and Data Security

Dear Participant (Insert Name and Surname)

This communication aims to furnish you with comprehensive information regarding the handling, storage, and anonymization of your data, to ensure adherence to ethical norms.

1. Data Collection

I will collect the following types of data during our interviews:

- Personal information: [e.g., age, gender, occupation]
- Responses to interview questions: [briefly describe the nature of the questions]
- Additional notes or observations: [if applicable]

2. Data Handling

Confidentiality: Your identity and responses will be kept strictly confidential. Only I will have access to your raw data.

Anonymization: Personal identifiers like your name will be removed from your data when aggregated to ensure anonymity. This means your identity will not be linked to your responses in any reports or publications.

Usage: Your data will be used solely for the purposes of this research. No information will be shared with third parties without your consent.

3. Data Storage

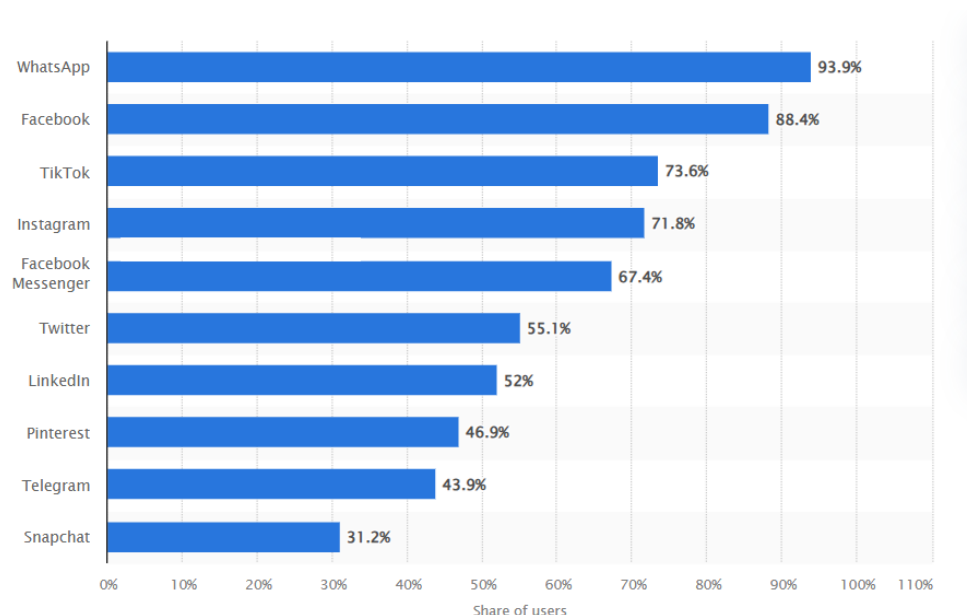
Secure Storage: All data will be stored in secure, password-protected digital files a period of [insert duration] following the completion of the research. After this period, all data will be deleted.

4. Anonymization Process

De-identification: I will replace your name and other identifying details with unique codes during data transcription.

Aggregation: Data will be aggregated for analysis, meaning individual responses will be combined with others to identify trends and patterns, further protecting your anonymity.

Appendix G – The penetration of WhatsApp into the South African Market (Statista ,2024)



Appendix H - Banked customers that are digitally inactive in South Africa's Big for banks

Name of Bank	Digital Active Base	Total Active Base	Percentage Digitally Inactive
Nedbank	3 000 000	3 572 000	16%
FNB	6 890 000	11 490 000	40%
ABSA	4 300 000	12 500 000	66%
Standard Bank	4 100 000	11 400 000	64%

Appendix I – Costing Breakdown

Salary	Average Salary of a Senior Developer in South Africa is approximately R840000 pa Source Glassdoor.com. Average salary of a two Direct Marketers is R768 000 pa Source Talent.com. Average Salary of two Testers is The salary of two testers is R633696 Indeed.com. Average Salary of two Business Analysts is R1m pa Source Jobted
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Marketing	Average cost of one SMS is 22c each Source Quick SMS @500000 SMS's a month . Average Cost of a Push Notification is 15c each@ 1m a month AdHoc PR and Social R100000 pm or R1.2m pa
Development Costs	Ranges, Selected cost is R7m Source Uptech
Cyber Security	R1,5 m pa Source Fa News
Infrastructure	Average R2m per year based on industry experience

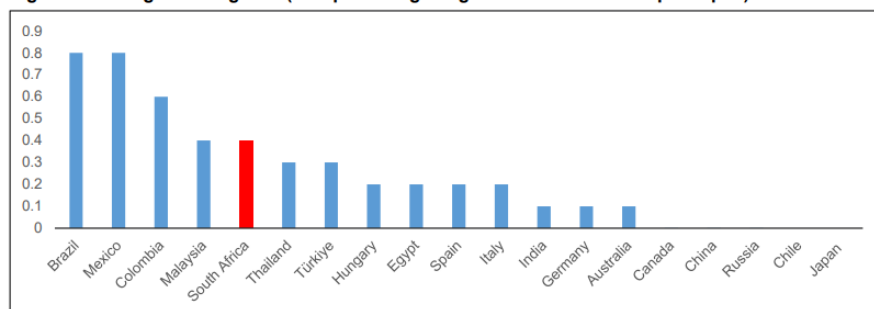
Appendix J – Non -Exhaustive list of Regulations that will govern the solution

- o Banking Institutions Act;[xii]
- o Bills of Exchange Act;[xiii]
- o Companies Act;[xiv]
- o Cybercrimes Act;[xv]
- o Financial Advisory and Intermediary Services Act (“FAIS Act”);[xvi]
- o Financial Institutions (Protection of Funds) Act;[xvii]
- o Financial Intelligence Centre Act (“FIC Act”);[xviii]
- o Financial Markets Act;[xix]
- o Financial Sector and Deposit Insurance Levies (Administration) and Deposit Insurance Premiums Act;[xx]
- o Financial Sector and Deposit Insurance Levies Act (“FSDIL Act”);[xxi]
- o FSR Act;[xxii]
- o Income Tax Act;[xxiii]
- o National Payment System Act;[xxiv]
- o Prevention and Combating of Corrupt Activities Act (“PRECCA Act”);[xxv]
- o Prevention of Organised Crime Act (“POC Act”);[xxvi]
- o Promotion of Access to Information Act (“PAI Act”);[xxvii]
- o Protection of Constitutional Democracy Against Terrorist and Related Activities Act (“POCDATARA Act”);[xxviii]
- o Protection of Investment Act;[xxix]
- o Protection of Personal Information Act (“POPI Act”);[xxx]
- o Securities Transfer Tax Act (“STT Act”);[xxxi]
- o Securities Transfer Tax Administration Act (“STTA Act”);[xxxii]
- o Tax Administration Act;[xxxiii] and
- o Value Added Tax Act.[xxxiv]

(Global Legal Group, 2024)

Appendix K – How South Africa Compares to the globally in terms of financial inclusion

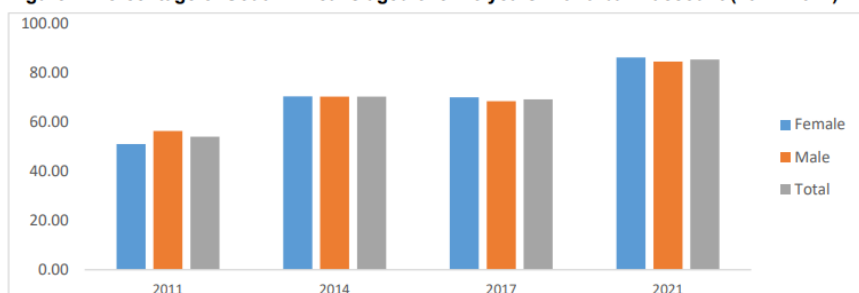
Figure 2: Average banking fees (as a percentage of gross national income per capita)



Source: World Economic Forum (2017)

(Gwatidzo & Simbanegavi, 2024, p 3)

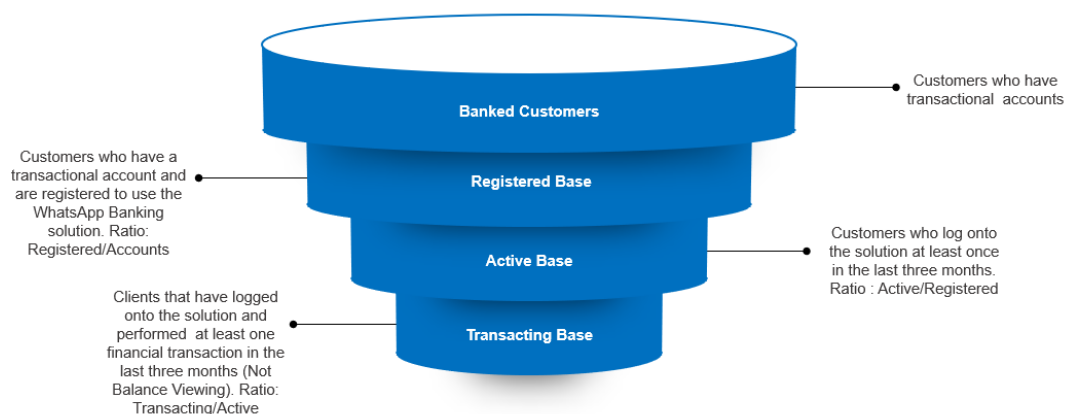
Figure 1: Percentage of South Africans aged over 15 years with a bank account (2011–2021)



(Gwatidzo & Simbanegavi, 2024, p 3)

Appendix L – Target Sub Segments of Banked but Digitally Inactive

The graphic below is a visualization that shows the interplay of customer segmentation and conversion ratios that the business must use and maximize for success



Appendix M – Daily Reporting Sample

Customers	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul
Users Registered	200	134	111	82	221
Users Active	105	95	87	47	176
Activation Rate	53%	71%	78%	57%	80%

Transactions	16-Jul	17-Jul	18-Jul
Prepaid Airtime	90000	120400	73009
Electricity Purchases	21999	23984	20485
Data Purchases	81234	79209	801843

Appendix N – Customer Acquisition Plan

Period	Month 1&2	Month 3&4	Month 5&6	Month 7&8	Month 9
Phase	Planning	Market Communications	Registration and Activation Drive	Promote Transactions	Post Implementation Review
Detail	Identify customers who make payments at branches and ATMs and those who have feature	Send push notifications to current customers who are already active on the Banking Apps or	Provide incentives for branch staff who open new accounts to register and	Offer users the opportunity to win prizes or receive discounts on certain fees when they	Measure the results of the campaign by looking at the number of registered, active, and transacting users and calculate the ratios between each customer status.

	phones. They will form the basis of the first Target Base.	Online Banking.	activate clients on the platform.	conduct transactions.	
	Write scripts for branch staff to handle objection clients that may be resistant to using the platform.	Send SMS's to current customers who have accounts but are not on any other Digital Channel.	Inform call centres of the campaign to handle inbound queries.	Viewing of balances is not to be considered.	If the active-to-registered ratio [Active Customers/Registered Customers] is low, it means that registrations are not being done correctly, and clients are likely being pushed to register without sufficient explanation.
	Write copy and create collateral that promote the three brand positions	Post Social Media content with emphasis on maximum Influencer content	Encourage self-registration on using push notifications to app users and		If the transacting-to-active ratio [Transacting Customers/Active Customers] is low, it means that there could be an issue with the ease of use or value of the portfolio.

	on Push Notificatio ns, SMS's and social media		online banners via the Online Banking Website		
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Appendix O – Invitation Letter

Dear (Insert Name and Surname)

I am a student at the University of the Witwatersrand working towards the completion of my Master of Business Administration (MBA). I write this is to request your participation in an interview that will go towards the research component of my work. The title of my paper is: Introducing a scalable USSD based WhatsApp Banking solution in South Africa.

I am seeking the insights of learned professionals that have experience in the Digital Banking space with focus on its processes, project management , analytics, marketing practices, commercialisation techniques, sales strategies and channel optimisation and believe that you would be an ideal fit.

The study will take the form of five questions that are designed to build a body of knowledge that will go towards my academic research. This will be conducted in a conversational format and can be done online or in person.

Do let me know if I may reach out to you to set up.

Kind Regards

Revaaj Sukdeo

Appendix P – Ethics Clearance Certificate

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg



Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA2739944/271

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

Project title	Introducing a scalable USSD based WhatsApp Banking solution in South Africa
Investigator / Researcher	Mr Revaaj Sukdeo
Nature of Project	MBA (Business Venture Proposal)
Decision of the Committee	Approved, provided stakeholders and participants are guaranteed confidentiality.
Issue Date of Certificate	11/7/2024
Expiry date	Date of submission of the project / research report
Chairperson	Dr Ayanda Magida  +27 11 717 3953  ayanda.magida@wits.ac.za 

9 Glossary

USSD - Unstructured Supplementary Service Data

SADC - Southern African Development Council

VAS - Value Added Services

SARB - South African Reserve Bank

MVP - Minimal Viable Product

BVP – Business Venture Plan

UAT – Usability Acceptance Testing

SRS – System Requirement Specification

BRS – Business Requirement Specification

FRS – Functional Requirement Specification

PAYU – Pay As You Use